WHAT IS CLAIM IS:

1. A system for analysing fabric surface appearance including:

    a feed mechanism for running a fabric over a crest,

    an image capturing device operable to capture a plurality of profile images of the fabric surface at the crest, and

    a computer system in communication with the image capture device and operable to manipulate the images to produce a three-dimensional representation of the fabric surface.

2. A system for analysing fabric surface appearance as claimed in claim 1 wherein the feed mechanism includes a frame for holding the fabric bent to form a crest, and a drive mechanism for moving the frame in a manner that moves the crest in the fabric from one end of the fabric to the other.

3. A system for analysing fabric surface appearance as claimed in claim 2 wherein the frame is an A-frame.

4. A system for analysing fabric surface appearance as claimed in claim 2 wherein the frame includes at least two rollers, an endless belt disposed between the two rollers, and a drive motor for rotating at least one of the rollers,

5 and wherein the belt has fasteners for removably securing the fabric to it.

5. A system for analysing fabric surface appearance as claimed in claim 1 wherein the image capturing device is a

10 Charge-Coupled Device camera.

6. A method of analysing fabric surface appearance including the steps of:

capturing a series of profile images of the surface of

15 a fabric and manipulating the images to produce a three-dimensional representation of the fabric surface,

identifying prominent characteristics in the three-dimensional representation, and

comparing the identified prominent characteristics to

20 reference data to identify a grade for the fabric.

7. A method of analysing fabric surface appearance as claimed in claim 6 wherein manipulating the images to

produce a three-dimensional representation of the fabric surface includes:

applying a threshold to each image to identify the profile of the fabric surface,

5   resolving the profile into data points, and

combing the data points from the series of images to produce a three-dimensional map.

8.   A method of analysing fabric surface appearance as
10   claimed in claim 6 wherein identifying prominent characteristics in the three-dimensional representation includes:

filtering the three-dimensional map, and

identifying portions of the three-dimensional map with
15   characteristics above a predetermined height.

9.   A method of analysing fabric surface appearance as claimed in claim 6 wherein the reference data includes height, area and distribution density of the prominent
20   characteristics.

10.   A system for analysing fabric surface appearance including:

a feed mechanism for running a fabric over a crest including, a frame for holding the fabric bent to form a crest, and a drive mechanism for moving the frame in a manner that moves the crest in the fabric from one end of the fabric to the other,

an image capturing device operable to capture a plurality of profile images of the fabric surface at the crest, and

a computer system in communication with the image capture device and operable to manipulate the images to produce a three-dimensional representation of the fabric surface, to identify prominent characteristics in the three-dimensional representation, and to compare the identified prominent characteristics to reference data to identify a grade for the fabric.